

Missouri Department of Natural Resources
Total Maximum Daily Load Information Sheet

Bynum Creek

Waterbody Segment at a Glance:

County: Callaway
Nearby Cities: Auxvasse, Kingdom City
Length of impairment: 0.3 miles
Pollutant: Non-Volatile Suspended Solids (NVSS)
Source: Limestone quarry



TMDL Priority Ranking: High

Description of the Problem

Beneficial uses of Bynum Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Fish Consumption by Humans

Use that is impaired

- Protection of Warm Water Aquatic Life

Standards that apply

- All waterbodies in Missouri are protected by the general criteria (standards) contained in Missouri's Water Quality Standards (WQS), 10 CSR20-7.031(3). These criteria are also called narrative criteria, since they do not contain specific numerical limits. The criteria that apply to Bynum Creek are (A), (C) and (G), and they state:
 - (A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.
 - (C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.
 - (G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.

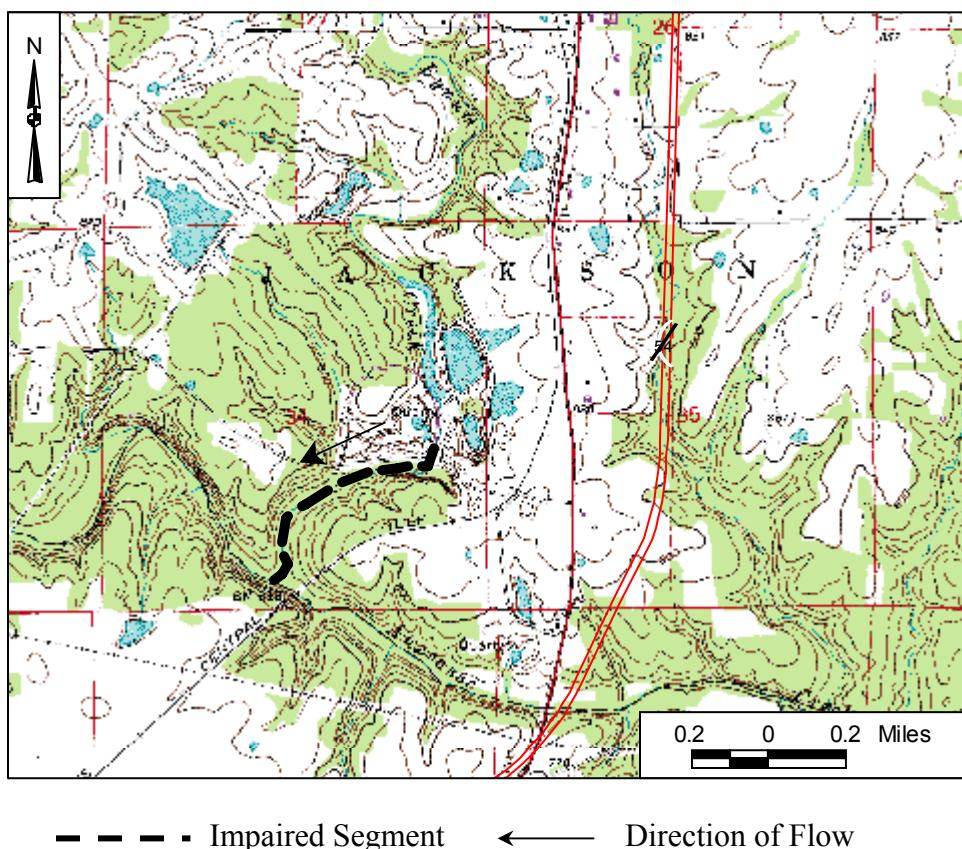
Background Information

Erosion from the operation of a limestone quarry is causing deposition in Bynum Creek of a large range of limestone pieces, from silt-sized particles to boulders. The movement of so much limestone into the stream is causing the development of large gravel bars that change the path of the stream flow.

This is causing the stream to wander (meander) more and has accelerated bank erosion. Non-Volatile Suspended Solids (NVSS) are the mineral solids (like silt, sand and gravel) coming from soil erosion or erosion of mine waste materials or stockpiles. When these solids get into a stream, they settle onto the bottom, smothering natural substrates (materials in the streambed), aquatic invertebrate animals and fish eggs.

Qualitative examination of the aquatic invertebrate animals (like water insects and crayfish) in Bynum Creek indicates their habitat is being degraded. A quantitative survey of aquatic invertebrates in Bynum Creek and nearby control streams is planned for 2004. If this investigation indicates instream problems due to the quarry operation, the quarry's operating permit (issued by the department) will be amended as needed to improve erosion controls.

Bynum Creek in Callaway County, Missouri



For more information call or write:

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